

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of ) **MAIL STOP**  
Raiko Milanovic ) **APPEAL BRIEF - PATENTS**  
Application No.: 10/590,650 ) Group Art Unit: 2618  
Filed: April 19, 2007 ) Examiner: Yuwen Pan  
For: ARRANGEMENT OF ) Appeal No.: \_\_\_\_\_  
APPLIANCES FOR PROCESS )  
CONTROL )  
)

**APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated April 27, 2010 finally rejecting claims 1-9, which are reproduced as the Claims Appendix of this brief.

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The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

**I. Real Party in Interest**

The present application is assigned to ABB Research Ltd. ABB Research Ltd. is the real party in interest.

**II. Related Appeals and Interferences**

The Appellant's legal representative, or assignee, does not know of any other appeal or interferences which will affect, be directly affected by, or have bearing on the Board's decision in the pending appeal.

**III. Status of Claims**

The application contains claims 1-9. Claims 1-9 stand rejected. This appeal is directed to rejected claims 1-9.

**IV. Status of Amendments**

No claim amendments were submitted in response to the final Office Action dated April 27, 2010.

## V. Summary of Claimed Subject Matter

An exemplary embodiment of the present disclosure provides an arrangement and system which includes at least first and second applications of a technical process. According to the exemplary embodiment, each appliance is one of a process measurement device and a process actuator. As described, for example, at the second full paragraph on page 2 of the specification, two different appliances can directly communicate to diagnose each other's operation, without involving a central process control point. When communication by either appliance with the central control point is desired, a common transmitter/receiver that is shared by the appliances can be used. For example, with reference to Appellant's Figure 1, a second appliance 2b can be a valve that has been requested to close. A first valve 2a can be monitored to determine whether a "zero" flow condition exists following the command to close valve 2b.

Information at valve 2a can be fed to valve 2b, as diagnostic information, without either valve communicating with the central process control point 4. However, if either or both of valves 2a and 2b are to communicate with the central point 4, such communication can be by way of a common transmitter/receiver 3. As such, overall communication efficiency can be realized with only a single transmitter/receiver (as opposed to having a dedicated transmitter/receiver for each appliance as in the prior art Figure 2 illustration).

Independent claims 1 and 9 recite various features of the above-described exemplary embodiment. A mapping<sup>1</sup> of independent claims 1 and 9 is provided in the following table.

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<sup>1</sup> To illustrate support for the recited features of the claimed invention, the mapping of claims 1 and 9 refers to exemplary embodiments disclosed in the specification and drawings. The specification is referenced to the original specification. The mapping is intended to indicate exemplary features disclosed in the application and is not intended to be exhaustive. Furthermore, references herein to the exemplary embodiments are not intended to limit the claimed invention to the specifically identified embodiments.

1. An arrangement comprising:	
at least first and second appliances of a technical process, each appliance being one of a process measurement device and a process actuator, wherein the first appliance communicates with the second appliance to pass diagnostic information relating to operation of the second appliance to the second appliance; and	appliances 2a-2d in Fig. 1; page 2, line 35 to page 3, line 5; and page 3, lines 23-31
a transmitter/receiver connected to the second appliance, for data interchange with a central point of the technical process, and for calling up data from the second appliance to transmit to the central point.	transmitter 3 in Fig. 1; page 3, lines 5-21
9. System comprising:	
an arrangement of appliances of a technical process, each of which functions as at least one of a measuring device and an actuator, wherein a first of the appliances communicates with a second of the appliances to pass diagnostic information relating to operation of the second appliance to the second appliance;	appliances 2a-2d in Fig. 1; page 2, line 35 to page 3, line 5; and page 3, lines 23-31
a central communication device for data interchange; and	central communication device 4 in Fig. 1
a common transmitter/receiver connected to each of the appliances, and arranged for data interchange with the	transmitter 3 in Fig. 1; page 3, lines 5-21

central communication device.	
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## **VI. Grounds of Rejection to be Reviewed on Appeal**

The final Office Action contains a single ground of rejection. The Board is respectfully requested to review the following ground of rejection.

Claims 1-9 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,301,514 to Canada et al. (hereinafter "Canada").

## **VII. Argument**

In order to properly anticipate a claimed invention under 35 U.S.C. § 102, the identical invention must be shown in as complete detail as contained in the claim.

See *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP 2131. In addition, it is well-settled that the elements must be arranged in the single prior art reference as required by the claimed invention. See *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990); *Brown v. 3M*, 60 USPQ2d 1375 (Fed. Cir. 2001); MPEP 2131. Accordingly, anticipation under § 102 can be found only if a reference shows exactly what is claimed, in as complete detail as contained in the claim, and in the same arrangement as contained in the claim. See *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).

The rejection of claims 1-9 is legally and factually erroneous, because Canada does not disclose all the recited features of the claimed invention.

### **A. Independent Claims 1 and 9**

Claim 1 recites an arrangement in which the first appliance communicates with the second appliance to pass diagnostic information relating to operation of the second appliance to the second appliance. Claim 1 also recites a transmitter/receiver connected to the second appliance, for data interchange with a central point of the technical process, and for calling up data from the second appliance to transmit to the central point. Similar features are recited in independent claim 9. Claim 9 also recites a common transmitter/receiver for multiple appliances of a technical process

With reference to Figure 1, Canada discloses a wireless monitoring system in which machine monitors 4a-4i are each respectively wirelessly connected to a repeater 8, which is in turn connected to a command station 6. The repeaters 8 function to facilitate communication between the machine monitors 4 and the command station 6 (see Column 6, lines 39-65, and Column 7, lines 2-9). The machine monitors 4 contain a sensor 408 for measuring desired machine characteristics of the machine monitors 4 (see Column 7, lines 20-34). Canada discloses that the machine characteristics measured by a machine monitor 4 are communicated wirelessly to a repeater 8, and the repeater 8 forwards the information to the communication station 6.

In rejecting the claimed invention, the Examiner alleged that the machine monitors 4 of Canada correspond to the first appliance as recited in claims 1 and 9, that the repeaters 8 of Canada correspond to the second appliance as recited in claims 1 and 9, and that the command station 6 of Canada corresponds to the central point as recited in claims 1 and 9. This assertion is not supportable.

Claims 1 and 9 recite the appliances (first and second appliances) are each one of a process measurement device and a process actuator. At no point does Canada disclose or suggest that the repeaters 8 are a process measurement device or a process actuator in a technical process. The repeaters 8 of Canada are merely communication interfaces between the machine monitors 4 and the communication station 6. Accordingly, the repeaters 8 of Canada do not constitute either a process measurement device or a process actuator in a technical process.

Furthermore, claims 1 and 9 recite that the first appliance communicates with the second appliance to pass diagnostic information relating to operation of the second appliance to the second appliance. On the contrary, Canada discloses that the machine characteristics measured by a machine monitor 4 are communicated wirelessly to a repeater 8, and that the repeater 8 forwards the communicated machine characteristics of the machine monitor 4 to the communication station 6. The machine characteristics measured by the machine monitors 4 do not correspond to diagnostic information relating to operation of the repeater 8.

Canada discloses that an installation and control unit (ICU) 9 can be integrated in the machine monitors 4 and/or repeater 8. The ICU 9 is a user-operated computing device to accommodate transmission and reception of wireless signals (see Column 11, lines 7-40, and Column 22, lines 2-14). In a process of physically mounting the repeaters 8 to ensure that the repeaters 8 are able to accurately receive signals from machine monitors 4, an ICU 9 provided in a repeater 8 can calculate a bit error rate (BER) during a transmit routine test in which the ICU 9 of the repeater 8 transmits a transmission test signal to the machine monitor 4 to permit the machine monitor 4 to determine if it receives signals from the repeater 8 within an acceptable BER based on a transmit power level of signals from the repeater 8 (see Column 22, line 27 to Column 23, line 12). Conversely, in the process of physically mounting the repeaters 8 to ensure proper reception, an ICU 9 provided in a repeater 8 can initiate a receive routine to determine whether the repeater 8 receives signals from a machine monitor 4 within an acceptable BER based on a transmit power level of signals from the machine monitor 4 (see Column 23, lines 13-42).

The above-cited portions of Canada describe the functions of an ICU 9 as a separate component from the machine monitor 4 and repeater 8. However, based on the disclosure in Canada that an ICU 9 can be incorporated within a machine monitor 4 and/or repeater 8, the Examiner, in the Advisory Action dated August 6, 2010, interpreted the above-described disclosure of the ICU 9 as somehow meaning that a repeater 8 in which an ICU 9 is incorporated "control[s] the signal strength output of the machine monitor based on the measurement of the signal strength from the machine monitor." There is no disclosure in Canada which supports this interpretation. On the contrary, if an ICU 9 is incorporated in a repeater 8, the ICU 9 does not control the signal output strength of the machine monitor 4. Rather, an ICU 9 incorporated in the machine monitor 4 controls the signal output strength of the machine monitor 4, based on the determination of the ICU 9 in the machine monitor 4 of whether there is an acceptable BER.

Furthermore, the Examiner's reliance on the functions of the ICU 9 in measuring the BER of received or transmitted signals is erroneous. Even if Canada

is interpreted as somehow disclosing that the ICU 9 incorporated in a repeater 8 can control the signal output strength of a machine monitor 4, this feature of Canada has no relationship to the recited functions of the first appliance in claims 1 and 9.

Claims 1 and 9 recite that the first appliance communicates with the second appliance to pass diagnostic information relating to operation of the second appliance to the second appliance. The machine monitor 4 of Canada, which is believed to correspond to the first appliance as recited in claims 1 and 9, does not transmit diagnostic information relating to the operation of the repeater 8 to the repeater 8, which supposedly corresponds to the second appliance as recited in claims 1 and 9. Therefore, the Examiner's reliance on the functions of an ICU 9 incorporated in a repeater 8 is inapplicable to the functions of the first appliance as recited in claims 1 and 9.

Accordingly, Appellant respectfully submits that the system of Canada does not include first and second appliances as recited in Appellant's claims 1 and 9, in which the first appliance communicates with the second appliance to pass diagnostic information relating to operation of the second appliance to the second appliance.

Therefore, Appellant respectfully submits that claims 1 and 9 are patentable over Canada, since Canada does not disclose or suggest all the recited features of claims 1 and 9.

#### **B. Dependent Claims**

Dependent claims 2-8 recite further distinguishing features over Canada, and are also patentable over Canada by virtue of depending from claim 1.

For instance, claims 3 and 6 recite that each of the appliances carry out data preprocessing and/or diagnosing functions. Claims 5 and 8 recite that the transmitter/receiver performs analog/digital signal conversion, and/or data preprocessing.

Canada does not disclose the features of claims 3, 5, 6 and 8. On the contrary, the function of the repeater 8 is merely to repeat the received signals in an amplified value. The repeater 8 does not change the content or format type of the signals received from the machine monitors 4a-4i. Accordingly, the repeater 8 of

Canada does not carry out data preprocessing, diagnosing functions and/or analog/digital signal conversion, as recited in claims 3, 5, 6 and 8.

Therefore, in addition to failing to disclose all the recited features of claims 1 and 9, Canada also does not disclose or suggest the features of claims 3, 5, 6 and 8.

### **VIII. Claims Appendix**

See attached Claims Appendix for a copy of the claims involved in the appeal.

### **IX. Evidence Appendix**

See attached Evidence Appendix for copies of evidence relied upon by Appellant.

### **X. Related Proceedings Appendix**

See attached Related Proceedings Appendix for copies of decisions identified in Section II, supra.

Summary

Appellant has pointed to errors in the rejection of the claims including mischaracterizations of the applied art relevant to the pending claims, in addition to the failure of the applied art to disclose or suggest all the recited features of the claimed invention. Accordingly, Appellant respectfully requests that the final rejection of claims 1-9 be overturned, and that the application be returned to the Examiner for prompt allowance.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date November 5, 2010

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## VIII. CLAIMS APPENDIX

### The Appealed Claims

1. An arrangement comprising:

at least first and second appliances of a technical process, each appliance being one of a process measurement device and a process actuator, wherein the first appliance communicates with the second appliance to pass diagnostic information relating to operation of the second appliance to the second appliance; and

a transmitter/receiver connected to the second appliance, for data interchange with a central point of the technical process, and for calling up data from the second appliance to transmit to the central point.

2. The arrangement as claimed in claim 1, wherein the transmitter/receiver is associated with only the second appliance.

3. The arrangement as claimed in claim 1, wherein each of the appliances interchange data with one another via the transmitter/receiver, and carry out data preprocessing and/or diagnosis functions.

4. The arrangement as claimed in claim 1, wherein the appliances pass on their data as at least one of an analog signal and a digital signal.

5. The arrangement as claimed in claim 1, wherein the transmitter/receiver performs analog/digital signal conversion, and/or data preprocessing.

6. The arrangement as claimed in claim 2, wherein each of the appliances interchange data with one another via the transmitter/receiver, and carry out data preprocessing and/or diagnosis functions.

7. The arrangement as claimed in claim 6, wherein the appliances pass on their data as at least one of an analog signal and a digital signal.

8. The arrangement as claimed in claim 7, wherein the transmitter/receiver performs analog/digital signal conversion, and/or data preprocessing.

9. System comprising:

an arrangement of appliances of a technical process, each of which functions as at least one of a measuring device and an actuator, wherein a first of the appliances communicates with a second of the appliances to pass diagnostic information relating to operation of the second appliance to the second appliance ;

a central communication device for data interchange; and

a common transmitter/receiver connected to each of the appliances, and arranged for data interchange with the central communication device.

## **IX. EVIDENCE APPENDIX**

None

## **X. RELATED PROCEEDINGS APPENDIX**

None